©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

Notes on the systematic position of *Sinobirma malaisei* (BRYK 1944) and the genera *Tagoropsis, Maltagorea,* and *Pseudantheraea* (Lepidoptera, Saturniidae: Saturniinae, Pseudapheliini)

by

Wolfgang A. NÄSSIG[1] and Rolf G. OBERPRIELER

Abstract: The genus *Sinobirma* BRYK 1944 (**stat. nov.** as a genus), which was described as a subgenus of the Australian genus *Opodiphthera* WALLENGREN 1859 (Saturniinae, Saturniini), is not at all closely related to the Australasian complex of Saturniidae. In contrast, it is a member of the African group of genera related to *Tagoropsis* FELDER 1874 (Saturniinae, Pseudapheliini), as evidenced by the imaginal habitus and the structure of the male genitalia. There is evidence that *Sinobirma malaisei* (BRYK 1944) **comb. nov.**, the sole species in the genus, known only from the type locality in Yunnan, may be closely related to some species of *Maltagorea* BOUYER 1993 from Madagascar. Thus, it seems possible that *Maltagorea* is a paraphyletic assembly rather than a monophyletic genus. Possible relationships in the group of genera are discussed.

Anmerkungen zur systematischen Stellung von *Sinobirma malaisei* (BRYK 1944) und den Gattungen *Tagoropsis, Maltagorea* und *Pseudantheraea* (Lepidoptera, Saturniidae: Saturniinae, Pseudapheliini)

Zusammenfassung: *Sinobirma* BRYK 1944, als Untergattung der australischen Gattung *Opodiphthera* WALLENGREN 1859 beschrieben, wird als eine separate Gattung (**stat. nov.**) erkannt, die keine nähere Verwandtschaft zu den australisch-neuguineanischen Arten rund um *Opodiphthera* (Saturniinae, Saturniini) aufweist. Statt dessen verweisen Imaginalhabitus und männliche Genitalmorphologie sie zu der afrikanischen Gattungsgruppe um *Tagoropsis* FELDER 1974 (Saturniinae, Pseudapheliini). Es gibt genitalmorphologische Hinweise dafür, daß die yünnanische *Sinobirma malaisei* (BRYK 1944) **comb. nov.**, die einzige Art der Gattung, nah mit verschiedenen Arten der Gattung *Maltagorea* BOUYER 1993 von Madagaskar verwandt sein könnte. Deswegen erscheint es wahrscheinlich, daß die Gattung *Maltagorea* kein Monophylum, sondern nur eine paraphyletische Zusammenstellung ist. Die möglichen Verwandtschaftsbeziehungen in dieser Gattungsgruppe werden diskutiert.

---

[1] = 32nd contribution to the knowledge on the Saturniidae.

Nachr. entomol. Ver. Apollo, Frankfurt/Main, N.F. **15** (3): 369–382, November 1993;
ISSN 0723-9912.

©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

Introduction

During the "Swedish expedition to Burma and British India" in 1934 René MALAISE collected many Lepidoptera (at light and with a device later called "Malaise-trap") at several localities in central and north-eastern Burma and western Yunnan (see map, Fig. 1), which obviously have never been visited again by lepidopterists since this expedition. In 1944, BRYK published the results of his studies on most of the material of the families of Bombycoidea collected by MALAISE. Most Lepidoptera of MALAISE's collection are preserved in the Naturhistoriska Riksmuseet in Stockholm (NRS), Sweden; a few specimens are deposited in Museum Alexander Koenig in Bonn (MAKB) and in Landessammlungen für Naturkunde in Karlsruhe (LNK), Germany.

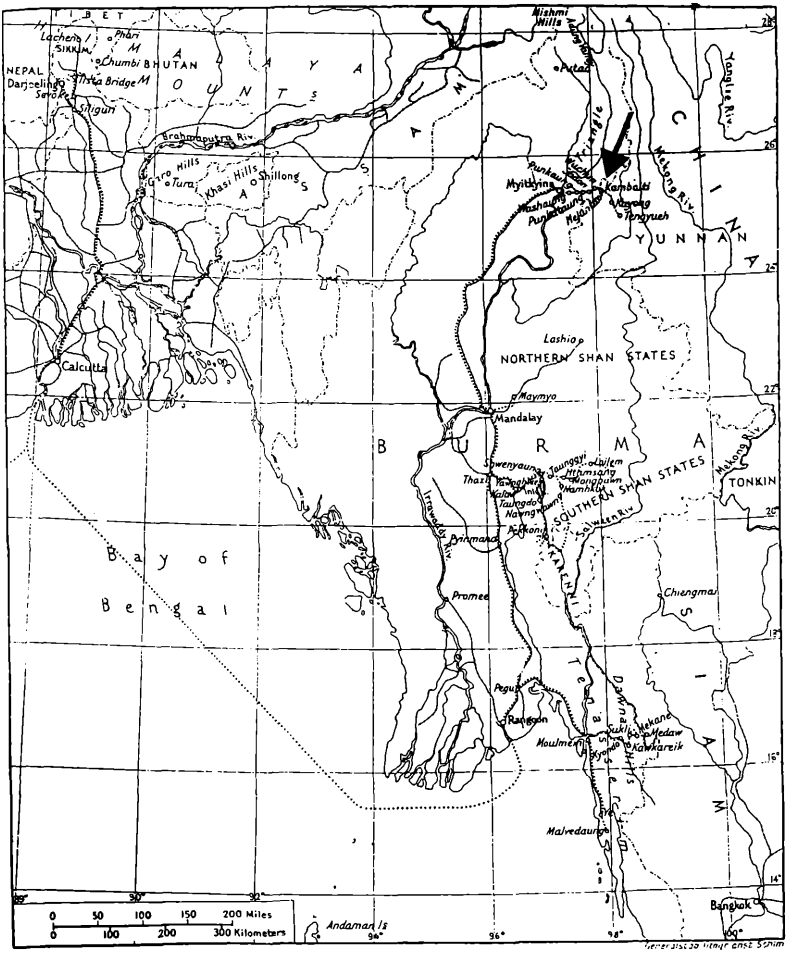
In this publication BRYK (1944) described several new taxa of Saturniidae. The probably most interesting of these was a new species from Kambaiti, a Chinese village in the mountains on the border between NE Burma and W Yunnan between the valleys of Irrawaddy and Salween rivers (Fig. 1, ca. 25°25' N, 98°6' E, at approx. 2000 m altitude, collected on 9th and 17th June 1934). BRYK (1944) named this species *malaisei* after its collector and erected a new subgenus, *Sinobirma,* for it in the genus *Opodiphthera* WALLENGREN 1859. The genus had been described by WALLENGREN for a single species from [Sydney], Australia, *O. varicolor* WALLENGREN 1859, and had comprised only species from Australia, New Guinea and the Moluccas in eastern Indonesia (see, e.g., BOUVIER 1936) until BRYK's addition of *O. malaisei* from the Asian mainland.

BRYK's inclusion of *malaisei* in *Opodiphthera* was obviously based on some superficial similarity between the new species and some of the Australasian taxa. In the description he compared his new taxon with *Opodiphthera sciron* (WESTWOOD 1881), *Opodiphthera papuana* ROTHSCHILD 1904, both species now placed in the genus *Neodiphthera* FLETCHER 1982, nec BOUVIER 1936 (see BOUVIER 1936, FLETCHER & NYE 1982), and with the type species of *Opodiphthera, varicolor* WALLENGREN 1858, which he also figured, now considered to be a junior subjective synonym of *astrophela* WALKER 1855.

From BRYK's description it is not clear why he considered his new species and the Australasian taxa congeneric; obviously it really was only this slight resemblance of yellowish colours that inspired him. He

©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

gave no detailed definition of the genus *Opodiphthera,* and no exact explanation why he included *Sinobirma* there. He did not even notice (at least he did not state so) the fact that the antennae of *Sinobirma malaisei* are bipectinate, whereas those of *Opodiphthera* are (at least in males) quadripectinate.



1 Reiseroute von R. MALAISE mit Angabe der Sammellokalitäten.

Fig. 1: Collecting localities of MALAISE's expedition showing Kambaiti (arrow) in Yunnan on the Burmese border, the type locality (and only known locality) of *Sinobirma malaisei*. Map copied from BRYK (1944: 2).

©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

During studies on several Asian genera of Saturniidae, the senior author came upon two specimens of BRYK's taxon *malaisei:* a male in MAKB and a female in LNK. These specimens encouraged further studies on the taxon, and later he received some more material from NRS in Stockholm. (Interestingly, the specimens in MAKB and LNK were not listed as paratypes by BRYK.)

The results of these studies showed that BRYK was completely misled; *Sinobirma* has no close relationship with any Australasian genus and should best be treated as a distinct genus. It is therefore here raised from a subgenus of *Opodiphthera* to a full genus (**stat. nov.**), and *malaisei* is transferred from *Opodiphthera* to *Sinobirma* (**comb. nov.**). The genus *Sinobirma* is rediscribed, and possible zoogeographical consequences are discussed. The close relationships between *Sinobirma* and the continental African and Madagascan genera *Tagoropsis* FELDER 1874, *Pseudantheraea* WEYMER 1892, and *Maltagorea* BOUYER 1993 are shown and discussed.

Redescription of *Sinobirma malaisei* (BRYK 1944)

External morphology, ♂ (Fig. 2).

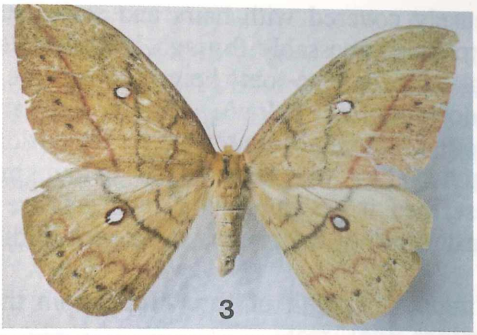
(After the worn male in MAKB and colour slides of paratypes in NRS.) Antennae yellowish brown (not rusty brown as written by BRYK); bipectinate; the rami are inserted on the dorsal side of the antenna and at the proximal edges of the segments. Labial palpi short and small;

Colour plate

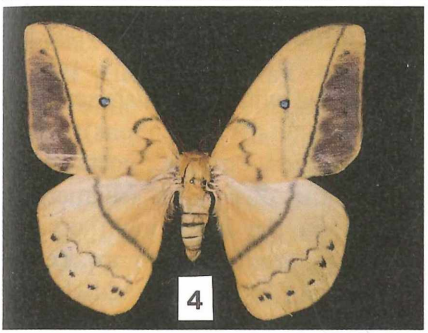
Figs. 2–9: Pseudapheliini species. All specimens except the holotype of *Sinobirma malaisei* are to the same scale [scale in cm]; photographs W. NÄSSIG if not stated otherwise. **Fig. 2:** *Sinobirma malaisei* (BRYK 1944), ♂, in MAKB. **Fig. 3:** *Sinobirma malaisei,* ♀, holotype, in NRS; photograph Bert GUSTAFSSON, Stockholm. **Fig. 4:** *Maltagorea auricolor* (MABILLE 1879), ♂, Madagascar, in coll. NÄSSIG. **Fig. 5:** *Maltagorea fuscicolor* (MABILLE 1879), ♂, the type species of *Maltagorea* BOUYER 1993, Madagascar, in coll. NÄSSIG. **Fig. 6:** *Tagoropsis flavinata* (WALKER 1865), ♂, the type species of *Tagoropsis* FELDER 1874, South Africa, Natal, in coll. NÄSSIG. **Fig. 7:** *Pseudantheraea discrepans* (BUTLER 1878), ♂, the type species of *Pseudantheraea* WEYMER 1892, Africa (no locality), in coll. NÄSSIG. **Fig. 8:** *Tagoropsis flavinata,* ♀, South Africa, Natal, reared by R. OBERPRIELER, in coll. NÄSSIG. **Fig. 9:** *Maltagorea auricolor*, ♀, Madagascar, in coll. NÄSSIG.

©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

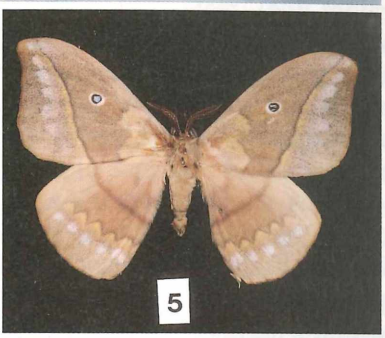
2



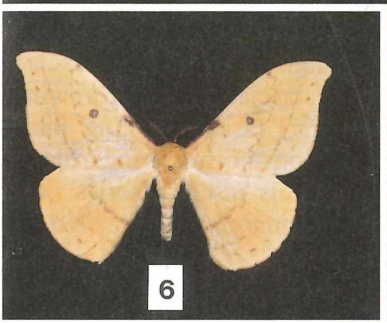
3



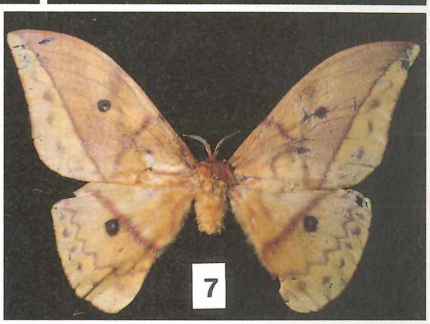
4



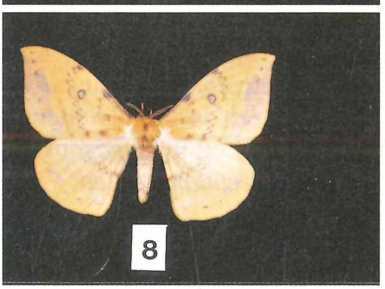
5



6



7



8

9

©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

densely covered with hairs and scales (the number of segments therefore only assessable through intensive depilation or maceration, which was not carried out here due to the destructive nature of these processes, see below). Thorax and abdomen uniformly yellow as ground colour of the wings. Head dorsally yellow, anteriorly dull reddish like the legs. (This colour may be slightly faded; BRYK described it as "purplish brown". There is no trace of BRYK's "black borderline" of the patagia to be seen in the MAKB male.)

Wings. – Length of forewings (from the wing base to the apex in a straight line), male: 47 mm (n = 1); BRYK (1944: 14) gave 46.5, 47.5, and 50 mm for 3 ♂♂ paratypes and 51.6 mm for the ♀ holotype. Forewings not falcate; outer margin convex; wings generally rounded. Ground colour of all wings yellow, speckled with brownish scales (the intensity of this speckling is variable among the specimens); general impression of the surface of the wings somehow "rough"; costa in some specimens slightly darker. A small hyaline discal dot (diameter ca. 1.5 mm on the forewings, ca. 2.5 mm on the hindwings) on every wing, encircled by a dark brown ring, proximally more reddish, especially on the forewings. Wing pattern in brown or reddish-brown colours: a serrated dark brown basal fascia in two steps; a weak, nearly straight or slightly serrated dark brown median fascia just proximal of the discal spots, in some specimens a second, much weaker fascia just distal of the spot, parallel to the median fascia; on the forewings a straight reddish-brown postmedial (or distal) fascia merging into the costa just ca. 1 mm proximal of the apex, on the hindwings the postmedial fascia strongly indented; distally of this fascia a series of dark brown dots, probably the remnants of the submarginal fascia. No apical pattern.

Underside of all four wings very similar to upperside.

General pattern similar to *Tagoropsis* (Fig. 6, *T. flavinata* ♂), *Maltagorea* (Fig. 4, *M. auricolor* ♂; Fig. 5, *M. fuscicolor*(1) ♂), and *Pseudantheraea* (Fig. 7, *P. discrepans* ♂). The pattern is largely identical, except that the eyespots of the hindwings are reduced in *Tagoropsis* and *Maltagorea* and present only in *Sinobirma* and *Pseudantheraea*.

---

(1) = This specific name is often spelled *fusicolor*, but no author has yet explained the discrepancy and clearly identified the original (correct) spelling. MABILLE's original description of the species was unfortunately not available to us at the time of completion of this paper; we follow here VIETTE (1990).

©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

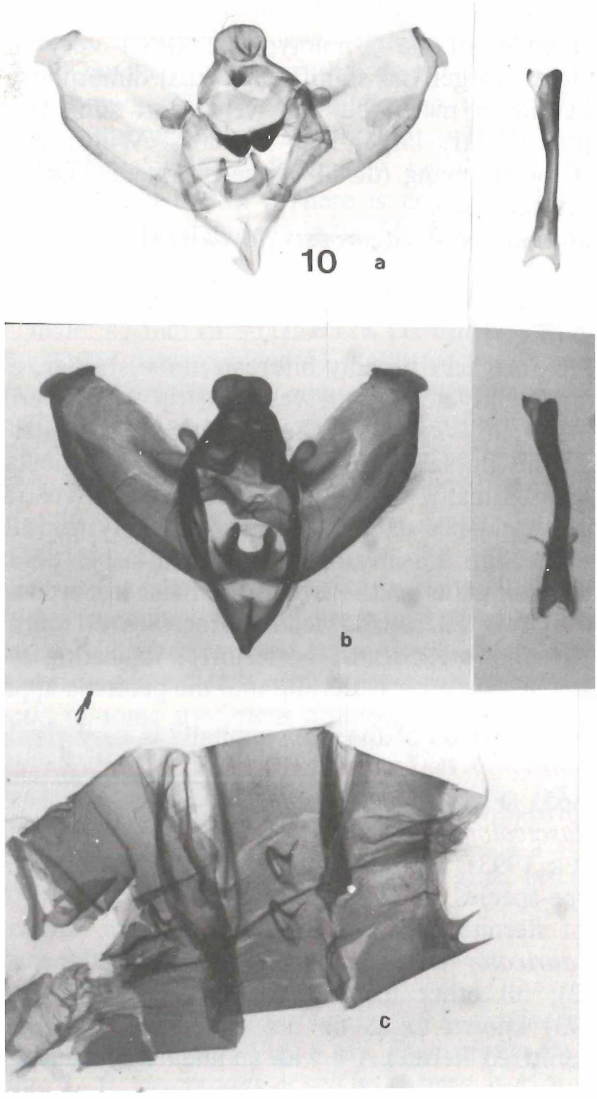
♀ (Fig. 3).
(After colour slides of the ♀ holotype in NRS.) Very similar to the ♂♂, only slightly larger (no significant sexual dimorphism). Antennae bipectinate like in the males, but with very short rami. Hyaline centres of the eyespots slightly larger than in males. Wings slightly darker, distal part of the forewing (distal of the postmedial line) slightly suffused with reddish scales.
Compare with females of *Tagoropsis flavinata* (Fig. 8) and *Maltagorea auricolor* (Fig. 9).

Genitalia, ♂ (Fig. 10).
Aedeagus: Proximal part broadly bifurcate; tube slender, bent vertically; distal part slightly thickened; vesica at tip with sclerotized tooth. Valves: Ventral part slightly thickened, folded in; distal tip slightly enlarged, fold in; dorsal base with a knob-like protuberance. Uncus non-bipartite; proximally very thick, rounded, disto-ventrally a hook-like tip. Dorsal guidance of the aedeagus (probably transtilla) strongly sclerotized. Vinculum dorsally open, with two lashes dorsally. Saccus with a dorsal hook at its end. Perhaps the most important character is the presence of two sclerotized ventral processes on sternite A-8 (the 8th abdominal segment) directed posteriorly, indicating the functional inclusion of the 8th abdominal sternite into the genitalia apparatus.

The general construction of the male genitalia is very similar to that of *Maltagorea auricolor* (MABILLE 1879) (Fig. 11), *Tagoropsis flavinata* (WALKER 1865) (Fig. 12; type-species of *Tagoropsis* FELDER 1874), *Maltagorea fuscicolor* (MABILLE 1879) (Fig. 13; type-species of *Maltagorea* BOUYER 1993), and *Pseudantheraea discrepans* (BUTLER 1878) (Fig. 14; type-species of *Pseudantheraea* WEYMER 1892). The two projections of sternite A-8 are, besides *Sinobirma,* known only from *Maltagorea auricolor* and some more *Maltagorea* species (see GRIVEAUD 1962); all other members of the *Tagoropsis* group (*sensu* BOUYER 1993) known to us do not have such processes, but may possess a sclerotized sternite A-8 with an undulating caudal border.

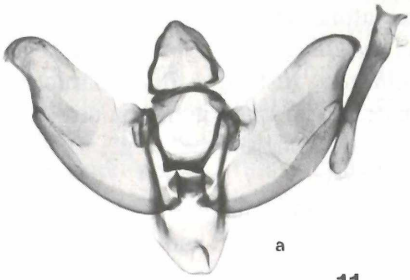
Female genitalia have not yet been dissected.

©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

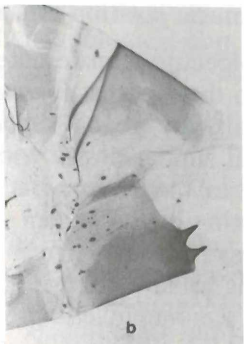


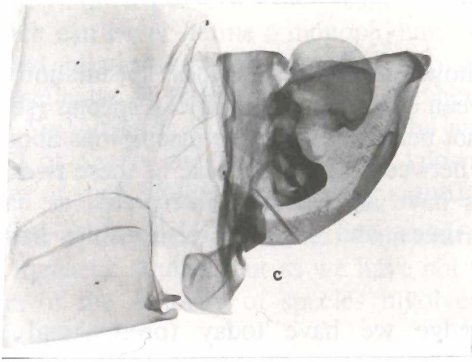
Figs. 10–14: Male genitalia of Pseudapheliini species. **Fig. 10:** *Sinobirma malaisei;* A = GP (dissection) no. 298/86 W. NÄSSIG, the Bonn ♂; B = GP no. 398/86 Nässig = 7176 NRS, one of the Stockholm paratypes; C = abdominal sternite A-8 of the Stockholm male. **Fig. 11:** *Maltagorea auricolor,* a = GP no. 353/86 NÄSSIG; b = abdominal sternite A-8 of GP no. 353/86 NÄSSIG; c = GP no. 442/86 NÄSSIG, lateral view with 8th sternite *in situ,* left valva cut away, aedeagus extracted; d = aedeagus of c. **Fig. 12:** *Tagoropsis flavinata,* GP no. 203/84 NÄSSIG; no processes on sternite A-8. **Fig. 13:** *Maltagorea fuscicolor,* GP no. 355/86 NÄSSIG; no processes on sternite A-8. **Fig. 14:** *Pseudantheraea discrepans,* GP no. 354/86 NÄSSIG; no processes on sternite A-8.

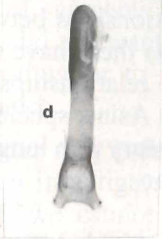
©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

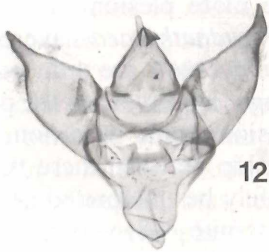


11



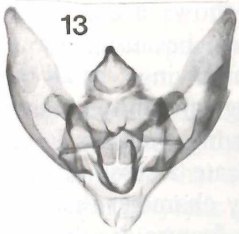


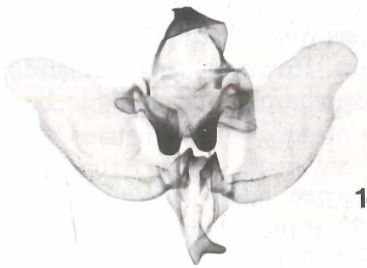




12

13





14

©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

Systematic position and relationships of *Sinobirma*

The bipectinate male antennae alone should have drawn BRYK's attention to the fact that *Sinobirma malaisei* cannot be a close relative of the Australasian genus *Opodiphthera*. Instead, this character and the general similarities in wing pattern and male genitalia strongly tie *Sinobirma* to the *Tagoropsis* group of genera (see, e.g., BOUYER 1993), consisting of the genera *Tagoropsis* (ca. 7 species), *Pseudantheraea* (2 species) from the African continent and *Maltagorea* (ca. 13 species according to BOUYER 1993) from Madagascar, and most probably constituting a monophyletic group within the largely African tribe Pseudapheliini.

This connection is somehow surprising; besides speculations about possible relationships between Salassinae and African species (see, e.g., NÄSSIG 1994) there have not been any intensive discussions about close phylogenetic relationships between the Saturniidae of these two faunas; African and Asian species have always been interpreted as having a separated history for long times, and no close relationships have been found thus far.

From the limited knowledge we have today (preimaginal stages, ecological requirements etc. not known at all) the exact placement of *Sinobirma* within the group cannot safely be concluded. The general habitus shows a close similarity with the more plesiomorphic *Pseudantheraea,* because only *Sinobirma* and *Pseudantheraea* have eyespots on the hindwings; in all other groups these eyespots are reduced on the hindwings and only present on the forewings. However, as the presence of hindwing eyespots is regarded as a plesiomorphic condition, it does not indicate a close (sister-group) relationship between these two taxa. The only character that can, at present, safely be interpreted as an apomorphic feature are the two processes of sternite A-8, which are shared by *Sinobirma malaisei* and some *Maltagorea* species and seem to indicate that these two genera (or at least *Sinobirma* and some of the species of *Maltagorea*) may be adelphotaxa. However, such a relationship is as yet based on only one weak synapomorphy and needs to be supported by others.

BOUYER (1993) recently erected a new genus, *Maltagorea,* to take up all the Madagascan species (ca. 13) of the *Tagoropsis* group, which had previously all been placed in *Tagoropsis* itself (see GRIVEAUD 1962,

©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

VIETTE 1990, 1993). This action restricted *Tagoropsis* to about 7 continental African species. BOUYER based his rather typological concept of *Maltagorea* largely on the following two characters:

1) Number of segments of the labial palpi (*Maltagorea* 3, *Tagoropsis* 2, *Pseudantheraea* 1). This character represents only a series of reductions; 3 segments are the plesiomorphic condition in all higher Lepidoptera, and reductions of this number are commonplace in many families, especially when the proboscis is reduced as well, and occur mostly polyphyletically. Therefore, the character of the number of segments of the labial palpi can be used neither to prove *Maltagorea* to be a monophylum (it possesses the plesiomorphic condition of the character, which can never define a monophylum), nor to establish the monophyly and relationships of the other two genera (the reductions are phylogenetically of little value). The number of segments of the labial palpi in *Sinobirma* is as yet unknown, and we did not want to macerate the head of one of the few specimens known thus far to investigate a character of such limited phylogenetic significance.

2) Details of the female genitalia. This character may indeed be useful for phylogenetic studies, but as we have not yet investigated the female genitalia of the majority of species involved, we cannot discuss this aspect at present.

BOUYER (1993), following GRIVEAUD (1962), divided the 13 currently recognized species of *Maltagorea* into four species groups. Only four of these species – the second (*fuscicolor*) group of three species and *M. ankaratra* (VIETTE 1954) of the third (*lupina*) group – do not possess the two characteristic processes of sternum A-8 (see GRIVEAUD 1962) that also occur in *Sinobirma malaisei*. Therefore, it appears that either *S. malaisei* is related to only those species of *Maltagorea* that also possess these processes, thus leaving *Maltagorea* a paraphyletic assemblage if *S. malaisei* is placed in a separate genus, or, if the absence of these processes in the four species that do not have them is regarded as a secondary loss, *Sinobirma* may represent the adelphotaxon of *Maltagorea*. However, on details of the wing pattern and male genitalia it also seems possible that the continental *Pseudantheraea* and/or *Tagoropsis* may be related to only certain species of *Maltagorea*. In particular, the affinities of *M. auricolor,* which stands rather isolated in *Maltagorea* (GRIVEAUD 1962, BOUYER 1993), must be established; BOUYER (1993) already draw attention to the agreement in several characters between this species and *Pseudantheraea*. Clearly the defin-

©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

ition of *Maltagorea* and the relationships of its various species to each other and to other genera of this group require considerable further studies of a variety of characters, and BOUYER's (1993) proposed phylogenetic relationship between these groups – [*Maltagorea* + *Pseudantheraea*] + *Tagoropsis* – must be regarded as premature at this stage, especially since it does not take *Sinobirma* into account. Given the unresolved relationships between these three African genera, the exact placement and relationships of *Sinobirma* cannot be determined at present.

In unravelling the relationships between these four genera and their affinities within the tribe Pseudapheliini, particular attention should also be paid to characters of the immature stages. *Pseudantheraea,* for example, pupates in an unusual fashion in a flimsy arboreal cocoon (see GARDINER 1982, pl. XX), while in *Tagoropsis* the eggs are laid in a peculiar three-tiered cluster glued side-on to a leaf (as found in *Pselaphelia* and *Pseudaphelia*). Unfortunately, virtually nothing is as yet known about the life-histories and preimaginal stages of *Maltagorea,* only PAULIAN (1953) giving some brief notes about the larva and pupa of *M. fuscicolor* (as *Copaxa subocellata*), and nothing at all is known about the immature stages of the phylogenetically critical *M. auricolor* and *S. malaisei*.

Zoogeographical considerations

The lack of any recent connections between African and Asian faunas of Saturniidae is clearly largely due to the fact that these moths are not strong, long-distance fliers; there are no migrating species known in the family. The adult moths do not take up food (most species have strongly reduced mouthparts) and have a short lifespan, and the females tend to oviposit in close proximity of where they hatched and do not readily colonize new areas. Most saturniids are therefore rather closely restricted to a particular habitat, and widespread species usually have a large range because their habitat also occurs widely. Only a few species occupy various different habitats and have a wide range for this reason. This is in contrast to many other lepidopteran groups comprising adult-feeding, long-lived and easily dispersing species.

Given this general low vagility and habitat restriction of saturniids, it seems very unlikely that a forest species (Pseudapheliini are predominantly forest-dwellers) was able to migrate with its forest habitat from

©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

Africa through Arabia and the Tethys Sea to the north-eastern edge of the Indian Subcontinent during Tertiary or more recent times. Also, considering the fact that most of the species of the *Tagoropsis* group (including obvious close relatives of *Sinobirma*) occur on Madagascar, it seems more plausible to regard *Sinobirma* as the relict (or offspring) of a formerly eastern Gondwanan species that lived in India and Madagascar during the late Cretaceous and then travelled north on the "Arc India" to Asia. In that case, however, it is surprising that only one such species of Pseudapheliini should have survived very locally in Asia, while the tribe is rather well represented on Madagascar and continental Africa today. Also, to really postulate such a high age for *Sinobirma,* we need to know considerably more about the origin, phylogeny and evolutionary history of the Pseudapheliini and the *Tagoropsis* group, especially regarding preimaginal characters and biological aspects such as foodplants. It does seem very likely, however, that *Sinobirma* is some kind of a "living fossil" of considerable age.

Acknowledgements. Thanks are due to Bert GUSTAFSSON, Stockholm, and Dieter STÜNING, Bonn, for taking photographs and loaning specimens under their curation. We are also grateful to Thierry BOUYER, Bruxelles, for some last-minute comments and hope that we can jointly undertake a study of the relationships of these genera in the future.

References

BOUVIER, E.-L. (1936): Étude des saturnioïdes normaux, famille des Saturniidés. – Mém. Mus. Nation. d'Hist. Natur., nouv. sér., **3:** 1–354 + 12 pls.

BOUYER, T. (1993): *Maltagorea* n. gen., un nouveau genre de Saturniidae malgache (Lepidoptera: Saturniidae, Saturniinae, Pseudapheliini). – Lambillionea **93** (1): 97–102.

BRYK, F. (1944): Entomological results from the Swedish expedition 1934 to Burma and British India. Lepidoptera: Saturniidae, Bombycidae, Eupterotidae, Uraniidae, Epiplemidae und Sphingidae, gesammelt von René MALAISE. – Arkiv f. Zool. **35 A (8):** 1–55, 6 pls.

FLETCHER, D. S., & NYE, I. W. B. (1982), *in:* NYE, I. W. B. (ed.), The generic names of moths of the world, vol. **4.** – 192 pp., London (British Museum (Natural History)).

GARDINER, B. O. C. (1982): A silkmoth rearer's handbook, 3rd edition. – The Amateur Entomologist vol. **12,** 255 pp., 32 col., 26 b. & w. pls.

GRIVEAUD, P. (1962): Insectes, Lépidoptères Eupterotidae et Attacidae. – Faune de Madagascar, **15,** 64 pp., 12 pls. *[Publication date of this brochure 31 March 1962 according to VIETTE 1993, not 1961 as printed on GRIVEAUD's title page.]*

©Entomologischer Verein Apollo e.V. Frankfurt am Main; download unter www.zobodat.at

NÄSSIG, W. A. (1994): Zur Präimaginalmorphologie von *Saturnia (Rinaca) zuleika* und *S. (R.) thibeta* sowie Anmerkungen zu den Salassinae (Lepidoptera: Saturniidae. – Nachr. entomol. Ver. Apollo, Frankfurt am Main, N.F. **15** (3): 409–438.

PAULIAN, R. (1953): Récherches sur les Insectes d'importance biologique à Madagascar, XII à XX. XIV. – *Copaxa subocellata* BUTLR. (Lép. Saturn.). – Mém. Inst. Scient. Madagascar, Sér. E, **3** (3): 15–17.

VIETTE, P. (1990): Liste récapitulative des Lépidoptères Hétérocères de Madagascar. A provisional check-list of the Lepidoptera Heterocera of Madagascar. – Faune de Madagascar, **Supplément 1,** 263 pp. (publ. by the author).

––––– (1993): Brefs commentaires sur le genre *Maltagorea* BOUYER 1993 et ses espèces (Lepidoptera Saturniidae). – Lambillionea **93** (3): 295–296.

Addresses of the authors:

Dipl.-Biol. Wolfgang A. NÄSSIG, Schumacherstrasse 8,
D-63165 Mühlheim/Main, Germany

Rolf G. OBERPRIELER, Biosystematics Division,
Plant Protection Research Institute, Private Bag X134,
Pretoria 0001, South Africa